In the Claims:

Please cancel claim 4. Please amend claims 21 and 28. A detailed listing of the claims is provided, below.

1. (Original) A method of using silyl chemistry to control the reactivity of a self-assembled molecular electro-optic material, said method comprising:

providing an electro-optic material comprising a silyl-derivatized chromophore;

desilylating said chromophore compound to generate terminal hydroxy functionalities; and

reacting said hydroxy functionalities with a reagent having at least one silicon moiety.

- 2. (Original) The method of Claim 1 wherein said chromophore is a high-β chromophore.
- 3. (Original) The method of Claim 1 wherein said chromophore is derivatized with a trialkylsilyl protecting group.
 - 4. (Canceled)
- 5. (Original) The method of Claim 1 wherein said chromophore is desilylated by treatment with a deprotecting agent.
- 6. (Original) The method of Claim 1 wherein said chromophore is derivatized with a *tert*-butyldimethylsilyl protecting group.
- 7. (Original) The method of Claim 6 wherein said chromophore compound is desilylated with a quaternary ammonium fluoride.

Claims 8-20 (canceled).

21. (Currently Amended) A non-linear optical material comprising a plurality of molecular bilayers, each said bilayer comprising a first chromophore molecular layer coupled to a capping molecular layer with a siloxane bond

sequence, said capping eompound molecular layer capable of coupling directly coupled to another chromophore molecular layer with a siloxane bond sequence.

- 22. (Original) The material of Claim 21 wherein said chromophore is a high-β chromophore.
- 23. (Original) The material of Claim 21 wherein said capping layer is a polysiloxane.
- 24. (Original) The material of Claim 23 wherein said capping layer comprises octachlorosiloxane.
- 25. (Original) The material of Claim 21 wherein said bilayers are deposited on a substrate.
- 26. (Original) The material of Claim 25 wherein said substrate and said bilayers are incorporated into a waveguide device.
- 27. (Previously Presented) A chromophore composition with non-linear optical properties having the structural formula (Ch)XR_n, wherein (Ch)X comprises a pyridinium chromophore substructure and X is a heteroatom; R is a trialkylsiloxyalkyl moiety; and n is the number of said moieties meeting the valence requirement of said heteroatom.
- 28. (Currently Amended) The composition of Claim 27 wherein said chromophore is selected from the group consisting of structural formulae shown in FIGS. 2, 11 and 15.

$$(\mathsf{Bu}^\mathsf{t})\mathsf{Me}_2\mathsf{Si} \\ \\ \mathsf{N} \\ \\$$

- 29. (Original) The composition of Claim 27 where in X is selected from the group of heteroatoms consisting of O and N.
 - 30. (Original) The composition of Claim 29 wherein X is N and n is 2.
- 31. (Original) The composition of Claim 27 comprising a non-linear optical film.